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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,804	10/01/2003	Mitsuhiko Sato	CANO:91	3089

7590 11/01/2006

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EXAMINER	
PHAM, HAI CHI	

ART UNIT	PAPER NUMBER
2861	

DATE MAILED: 11/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/676,804	SATO ET AL.	
	Examiner	Art Unit	
	Hai C. Pham	2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *RCE (10/06/06) & Amendment (10/23/06)*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-7 and 9-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-7 and 9-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/06/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Request For Continued Examination

1. The request filed on 10/06/06 for a Continued Examination (RCE) under 37 CFR 1.114 based on parent Application No. 10/676,804 is acceptable and a RCE has been established. An action on the RCE follows.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 2-3, 5 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Arai (Pub. No. U.S. 2002/0080220).

Arai discloses an image forming apparatus comprising a plurality of image forming units (4Y, 4M, 4C, 4K, Fig. 1a) that form images and overlap the formed images onto a transfer material (intermediate transfer member 1), a plurality of scanners (e.g., respective polygon mirrors 434Y, 434M, 434C, 434K) that form images in said plurality of image forming units respectively, a first controller that has a first mode (full-color mode) in which image formation is carried out by said plurality of image forming units (all color components including the black component being operative), and a second mode (black and white mode) in which image formation is carried out by at least one of

said image forming units (only black component being operative), said first controller causing said plurality of scanners for the image formation in the first mode to be driven while the image formation is being carried out in the second mode (while in the black and white mode, all of the polygon mirrors are caused to be driven in the order of 434k, 434Y, 434M and 434C, with the polygon mirror 434K starting first, and although the remaining polygon mirrors 434Y, 434M and 434C are not being used in the black and white mode) (paragraph [0053]), and a second controller that carries out the image formation in the first mode after the image formation in the second mode is completed (the polygon mirrors 434Y, 434M and 434C are started in the black and white mode of printing so as to be ready to be used in the full-color mode of printing on the occasion after the first black and white image or on the next occasion of full-color printing, meaning when the black and white printing mode is completed) (paragraph [0055]). The method claim 9 is deemed to be clearly anticipated by the functions of the above structures.

Arai further teaches:

- wherein the image formation in the second mode is monochromatic image formation (i.e., black and white mode), and the image formation in the first mode is image formation in a plurality of colors (i.e., full-color mode),
- wherein said first controller starts to drive [at least one of] said scanners that are [is] not being used for the image formation in the second mode (paragraphs [0053], [0055]).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 4 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arai in view of Gomi et al. (U.S. 6,314,251).

Arai discloses all the basic limitations of the claimed invention except for the first controller starts a preparation for applying high voltage to at least one of said image forming units that is not being used for the image formation in the second mode.

Gomi et al. discloses an image forming apparatus for forming image in a full color mode or a monochromatic mode, wherein during the black monochromatic mode, the magnetic brush chargers (101b, 102b, and 103b) of the other color image forming units are driven so as to apply a high voltage to charge the respective photosensitive members (101a, 102a and 103a) on which no image is formed so that smeared color image will be prevented (col. 7, lines 44-56) (col. 10, line 47 through col. 11, line 9).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Arai by applying high voltage to the image forming units that are not being used for the image formation in the monochromatic mode as taught by Gomi et al. for the purpose of preventing the color image being smeared as suggested by Gomi et al.

3. Claims 6-7 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arai in view of Oda et al. (U.S. 6,094,208).

Arai discloses all the basic limitations of the claimed invention except for the second controller synchronizing the plurality of scanners after the image formation in the second or monochromatic mode is completed.

Oda et al. discloses an image forming apparatus for forming image in a full color mode or a monochromatic mode, wherein upon switching to the full color mode, all the polygon mirrors will be driven in synchronism using the signal from BD sensor (88d) of the laser scanning unit (27d) for recording black image so as to facilitate a quicker and more precise set up and synchronization of the drives of the polygon mirrors in the full color mode (col. 16, lines 9-25).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to synchronize the polygon mirrors in the device of Arai after the completion of the monochromatic mode by using the synchronizing signal obtained in the monochromatic mode as taught by Oda et al. The motivation for doing so would have been to prevent the misalignment of the plural toner images as well as to facilitate a quicker and more precise set up and synchronization of the drives of the polygon mirrors in the full color mode as suggested by Oda et al.

Response to Arguments

4. Applicant's arguments filed 10/23/06 have been fully considered but they are not persuasive.

5. Applicant argued that Arai "drives the polygon mirrors sequentially one after another rather than driving them together at the same time as set forth in independent claims 2 and 9". It is noted that the feature upon which applicant relies (i.e., the polygon mirrors being driven together at the same time) is not recited in the rejected claims 2 and 9, but rather all the plurality off scanners are required to be driven while the image formation is being carried out in the second mode. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Therefore, the teaching of Arai is still read on the claimed limitations as recited in claims 2 and 9.

Applicant further argued that Arai "would not have disclosed or taught switching to the first mode from the second mode, after the image formation in the second mode is completed". The examiner respectfully disagrees. Arai does teach the printing system going into the ready-to-write condition for forming a full color image while in the black and white printing mode, and that the full color printing mode starts no earlier than the full completion of the black and white printing session, otherwise the deterioration of the image quality would occur.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C. Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vip Patel can be reached on (571) 272-2458. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hai Phan

HAI PHAM
PRIMARY EXAMINER

October 28, 2006